

**Remarks**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and following remarks. Claims 1-53 remain pending in the current application. Claims 1-5, 9, 11, 14-24, 26-29, 31, 35, and 38 have been amended. Claims 1-3, 5, 9, 14-16, 18, 22, 27-29, 31, and 35 have been amended to further clarify the distinction of the claimed subject matter over the prior art. Claim 4 has been amended to depend from claim 1 instead of claim 2. Claims 11 and 24 have been amended to address minor issues related to antecedent basis and not for reasons related to patentability. Claims 15-17, 19-21, 23-24, and 26 have been amended to address minor informalities and not for reasons related to patentability. Claim 38 has been amended to address a minor matter of form. Claims 42-53 have been added.

**I. Oath/Declaration**

The Office Action states that the oath or declaration is defective because it does not identify the city and either state or foreign country of residence of each inventor. Applicants respectfully submit that a Combined Declaration and Power of Attorney containing such information was filed on March 8, 2002, along with a copy of the Notice of Informal Application as required. A duplicate copy of the previously filed declaration is enclosed. Page three of the declaration contains the city and state information. The objection to the oath should be withdrawn.

## **II. Claim Objections**

The Office Action objected to claims 15-17 because of some informalities. Applicants have amended claims 15-17 to replace "media" with "article." Thus, Applicants respectfully request that the objection be removed from claims 15-17.

The Office Action objected to claims 19-21 because of some informalities. Applicants have amended claims 19-21 to replace "media" with "article." Thus, Applicants respectfully request that the objection be removed from claims 19-21.

The Office Action objected to claims 23-24 because of some informalities. Applicants have amended claims 23-24 to replace "media" with "article." Thus, Applicants respectfully request that the objection be removed from claims 23-24.

The Office Action objected to claim 26 because of an informality. Applicants have amended claim 26 to replace "media" with "article." Thus, Applicants respectfully request that the objection be removed from claim 26.

These changes do not narrow the scope of the claims inasmuch as "article" is a broader word than "media."

## **III. Claim Rejections under 35 U.S.C. § 102**

The Office Action stated that claims 1-41 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,349,403 ("Dutta").

These rejections are respectfully traversed.

**a. Claims 1, 2, 4, 14-17, and 27-30**

Independent claims 1, 14, and 27 require: "generating symbols and connections formed according to the netlist and at least in part according to connectivity strength between at least a first symbol and a second symbol."

Dutta fails to teach or suggest anything related to connectivity strength, much less considering connectivity strength between at least a first symbol and a second symbol, as recited in independent claims 1, 14, and 27. Dutta teaches against considering connectivity strength between symbols because Dutta is understood to concern itself only with the **wire routing phase** of an integrated circuit design and fabrication process (see col. 3, lines 28-36), at which point **the pins have already been placed**. Because the pins have already been placed, there is no action taken with respect to consideration of connectivity strength between symbols, much less generating symbols and connections formed at least in part according to connectivity strength. Therefore, Dutta fails to teach or suggest "generating symbols and connections formed according to the netlist and at least in part according to connectivity strength between at least a first symbol and a second symbol," as recited in independent claims 1, 14, and 27. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 1, 14, and 27.

Dependent claims 2, 4, 15-17, and 28-30 depend from independent claims 1, 14, and 27, respectively, and are allowable for at least the reasons recited above in support of their parent claims 1, 14, and 27. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 2, 4, 15-17, and 28-30 should be withdrawn.

Dependent claims 2, 15, and 28 also require: "sorting the netlist at least in part according to the connectivity strength." Dutta fails to teach or suggest anything having to do with sorting a

netlist. Dutta is understood to focus solely on the wire routing phase of an integrated circuit design and fabrication process, at which point the pins have already been placed. Because this means that any consideration of the netlist has already occurred, Dutta is understood to be not at all concerned with a netlist, much less "sorting the netlist at least in part according to connectivity strength," as recited in claims 2, 15, and 28. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 2, 15, and 28 should be withdrawn.

Dependent claims 16 and 29 also require: "positioning a pin on a side of the first symbol, the side selected according to a connection between the first symbol and the second symbol." Dutta fails to teach or disclose anything having to do with positioning pins. Dutta is understood to focus solely on the wire routing phase of an integrated circuit design and fabrication process, at which point the pins have already been placed. Because the pins have already been placed, Dutta is understood to have nothing to do with positioning pins, much less "positioning a pin on a side of the first symbol, the side selected according to a connection between the first symbol and the second symbol," as recited in claims 16 and 29. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 16 and 29 should be withdrawn.

Dependent claims 4, 17, and 30 also require: "sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the wiring harness diagram with higher priority than symbols for which the side of the symbol for placing a pin may be selected." Dutta fails to teach or disclose anything having to do with sequencing symbol placement. Dutta is understood to focus solely on the wire routing phase of an integrated circuit design and fabrication process, at which point the pins have already been placed. Because the pins have already been placed, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with

sequencing symbol placement, much less "sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the wiring harness diagram with higher priority than symbols for which the side of the symbol for placing a pin may be selected," as recited in claims 4, 17, and 30. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 4, 17, and 30 should be withdrawn.

**b. Claim 3**

Independent claim 3 requires: "wherein generating the wiring harness diagram comprises positioning a pin on a side of a first symbol, the side selected according to a connection between the first symbol and a second symbol."

Dutta fails to teach or disclose anything having to do with positioning pins. Dutta is understood to focus solely on the **wire routing phase** of an integrated circuit design and fabrication process, at which point **the pins have already been placed**. Because the pins have already been placed, Dutta is understood to have nothing to do with positioning pins, much less "positioning a pin on a side of a first symbol, the side selected according to a connection between the first symbol and a second symbol," as recited in claim 3. Accordingly, the 35 U.S.C. § 102(e) rejection of independent claim 3 should be withdrawn.

**c. Claims 5-8, 18-21, and 31-34**

Independent claims 5, 18, and 31 require: "sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength of at least one pair of symbols" and "generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires."

Dutta does not teach or suggest generating a wiring harness diagram, much less generating a wiring harness diagram for at least one bundle, comprising a plurality of wires, according to a wiring harness layout, as recited in independent claims 5, 18, and 31. Dutta teaches against anything having to do with bundles because Dutta is understood to concern itself only with **routing wire connections within an integrated circuit** (see col. 8, lines 21-24). Because Dutta is understood to focus solely on using lanes to route connections between sources and targets, it teaches away from bundles. Therefore, Dutta fails to teach or suggest "generating a wiring harness diagram for at least one bundle according to the wiring harness layout, wherein the bundle comprises a plurality of wires," as recited in independent claims 5, 18, and 31. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 5, 18, and 31.

Furthermore, Dutta fails to teach or suggest anything related to symbol placement. Dutta is understood to focus solely on the wire routing phase of an integrated circuit design and fabrication process, at which point the pins have already been placed. Because the pins have already been placed, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with sequencing symbol placement, much less "sequencing symbol placement in a wiring harness layout at least in part according to the connectivity strength of at least one pair of symbols," as recited in independent claims 5, 18, and 31. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 5, 18, and 31 should be withdrawn.

Dependent claims 6-8, 19-21, and 32-34 depend from independent claims 5, 18, and 31, respectively, and are allowable for at least the reasons recited above in support of their parent

claims 5, 18, and 31. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 6-8, 19-21, and 32-34 should be withdrawn.

Dependent claims 6, 19, and 32 require: "selecting a side of a first symbol on which to position a pin to increase the directness of connectivity between the first symbol and a second symbol." Because the pins have already been placed in Dutta, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with selecting sides of symbols on which to position pins, much less "selecting a side of a first symbol on which to position a pin," as recited in claims 6, 19, and 32. Furthermore, because symbol placement has already occurred, Dutta is understood to have nothing to do with seeking to increase directness of connectivity, much less selecting a side to "increase the directness of connectivity between the first symbol and a second symbol," as recited in claims 6, 19, and 32. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 6, 19, and 32 should be withdrawn.

Dependent claims 7, 20, and 33 require: "selecting sides of the symbols on which to position pins according to a selected layout dimension" and "arranging the pins on the selected sides to increase the directness of connections between the symbols." Because the pins have already been placed in Dutta, any positioning of pins has already occurred. Because positioning of pins has already occurred, Dutta is understood to have nothing to do with selecting sides of symbols or arranging pins, much less "selecting sides of the symbols on which to position pins according to a selected layout dimension" or "arranging the pins on the selected sides to increase the directness of connections between the symbols," as recited in claims 7, 20, and 33. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 7, 20, and 33 should be withdrawn.

Dependent claims 8, 21, and 34 require: "sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the layout with

higher priority than symbols for which the side of the symbol for placing a pin may be selected." Because the pins have already been placed in Dutta, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with sequencing symbol placement, much less "sequencing symbol placement for the wiring harness diagram such that symbols with predetermined pin positions are placed in the layout with higher priority than symbols for which the side of the symbol for placing a pin may be selected," as recited in claims 8, 21, and 34. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 8, 21, and 34 should be withdrawn.

**d. Claims 9-11, 22-24, and 35-37**

Independent claims 9, 22, and 35 require: "sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength of at least one pair of symbols" and "selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol."

Dutta fails to teach or suggest anything related to placing symbols, selecting a side of a symbol, or increasing directness of connectivity between symbols. Dutta is understood to focus solely on the wire routing phase of an integrated circuit design and fabrication process, at which point the pins have already been placed. Because the pins have already been placed, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with either sequencing symbol placement or selecting a side of a symbol on which to place a pin. Also because symbol placement has already occurred, Dutta is understood to have nothing to do with respect to either considering the connectivity strength of

any pair of symbols or increasing the directness of connectivity between symbols. Therefore, Dutta fails to teach or suggest "sequencing symbol placement in a wiring harness layout for at least one bundle comprising signal-carriers, at least in part according to the connectivity strength of at least one pair of symbols" and "selecting a side of a first symbol on which to place a pin to increase the directness of connectivity between the first symbol and a second symbol," as recited in independent claims 9, 22, and 35. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 9, 22, and 35.

Dependent claims 10-11, 23-24, and 36-37 depend from independent claims 9, 22, and 35, respectively, and are allowable for at least the reasons recited above in support of their parent claims 9, 22, and 35. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claims 10-11, 23-24, and 36-37 should be withdrawn.

#### **e. Claims 12-13, 25-26, and 38-39**

Independent claims 12, 25, and 38 require: "when there is at least one predefined symbol in the netlist, selecting as the next pair of symbols a pair of symbols having the highest connection strength and comprising a predefined symbol."

Dutta does not teach or suggest anything having to do with connection strength, much less "selecting as the next pair of symbols a pair of symbols having the highest connection strength," as recited in independent claims 12, 25, and 38. Because the pins have already been placed in Dutta, there is no action taken with respect to consideration of connection strength between symbols, much less selecting a pair of symbols based on connection strength. Therefore, Dutta fails to teach or suggest "when there is at least one predefined symbol in the netlist, selecting as the next pair of symbols a pair of symbols having the highest connection

strength and comprising a predefined symbol," as recited in independent claims 12, 25, and 38. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejections be withdrawn from independent claims 12, 25, and 38.

Dependent claims 13, 26, and 39 depend from independent claims 12, 25, and 38, respectively, and are allowable for at least the reasons recited above in support of their parent claims 12, 25, and 38. They are also independently patentable. Accordingly, the 35 U.S.C. § 102(e) rejections of claim 13, 26, and 39 should be withdrawn.

**f. Claims 40 and 41**

Independent claims 40 and 41 disclose carrier waves. Dutta is understood to not disclose anything having to do with carrier waves. Therefore, Dutta fails to teach or suggest carrier waves such as those recited in independent claims 40 and 41. Accordingly, Applicants respectfully request that the 35 U.S.C. § 102(e) rejection be withdrawn from independent claims 40 and 41.

Independent claim 41 requires: "the pins positioned on sides of the symbols selected to increase the directness of connectivity between the first symbol and the second symbol." Because the pins have already been placed in Dutta, any symbol placement has already occurred. Because symbol placement has already occurred, Dutta is understood to have nothing to do with positioning pins, much less positioning pins "on sides of the symbols," as recited in claim 41. Furthermore, because symbol placement has already occurred, Dutta is understood to have nothing to do with seeking to increase directness of connectivity, much less positioning pins to "increase the directness of connectivity between the first symbol and the second symbol," as

recited in claim 41. Accordingly, the 35 U.S.C. § 102(e) rejection of claim 41 should be withdrawn.

#### **IV. New Claims**

Claims 42-51 each depend either directly or indirectly from claim 1. Claims 52-53 each depend either directly or indirectly from claim 7.

#### **V. Request for Examiner Interview**

The Examiner is formally requested to contact the undersigned to arrange for an Examiner Interview. This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

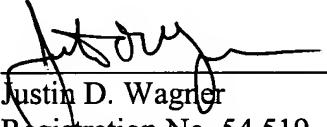
**VI. Conclusion**

The present application is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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